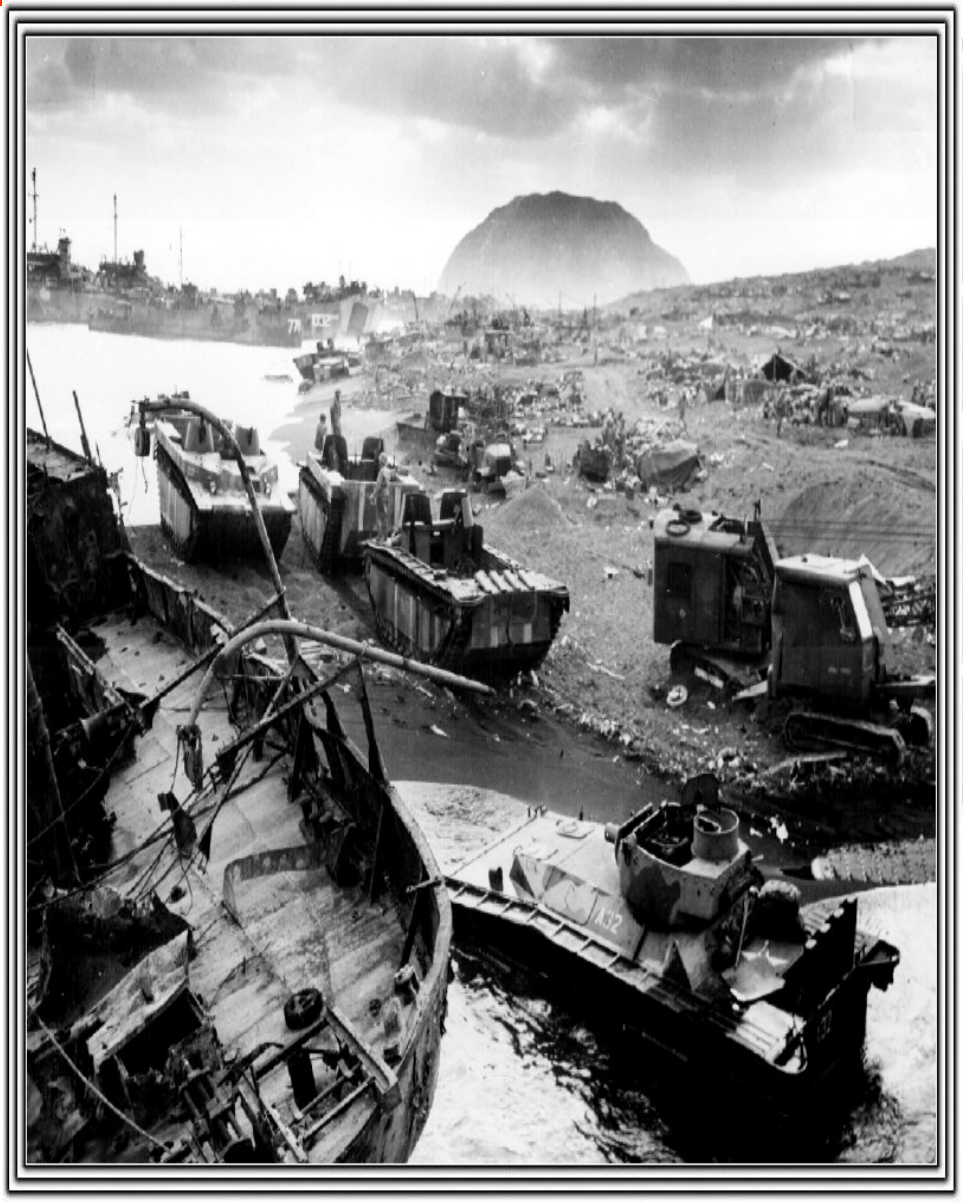
Seabasing

A Joint Force Enabler
In Area-Denial and Anti-Access Environments

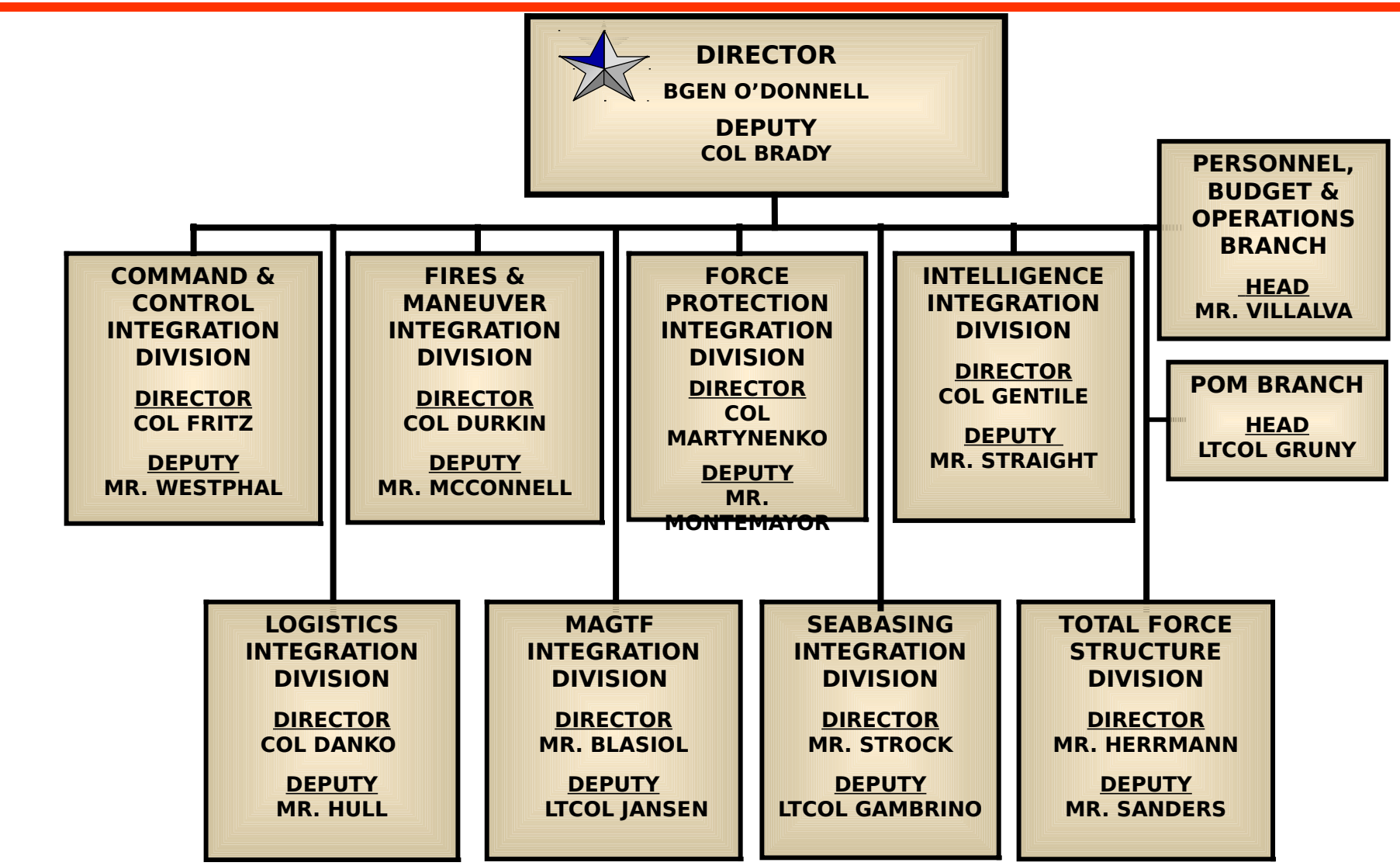
Rick Betsinger
Branch Head, Expeditionary Ship Capabilities Sea basing Integration Division
Capabilities Development Directorate
Marine Corps Combat Development Command
Quantico, Virginia 22134
703-784-6038

Agenda

- **Organization**
- **Sea basing-Seabase**
- **The Marine Expeditionary Brigade (MEB)**
- **Maritime Expeditionary Capabilities**
  - Assault Echelon
  - MPF(F)
  - Connectors
- **MEB**
- **MPF(F)**
- **Enablers**
- **Experimentation**

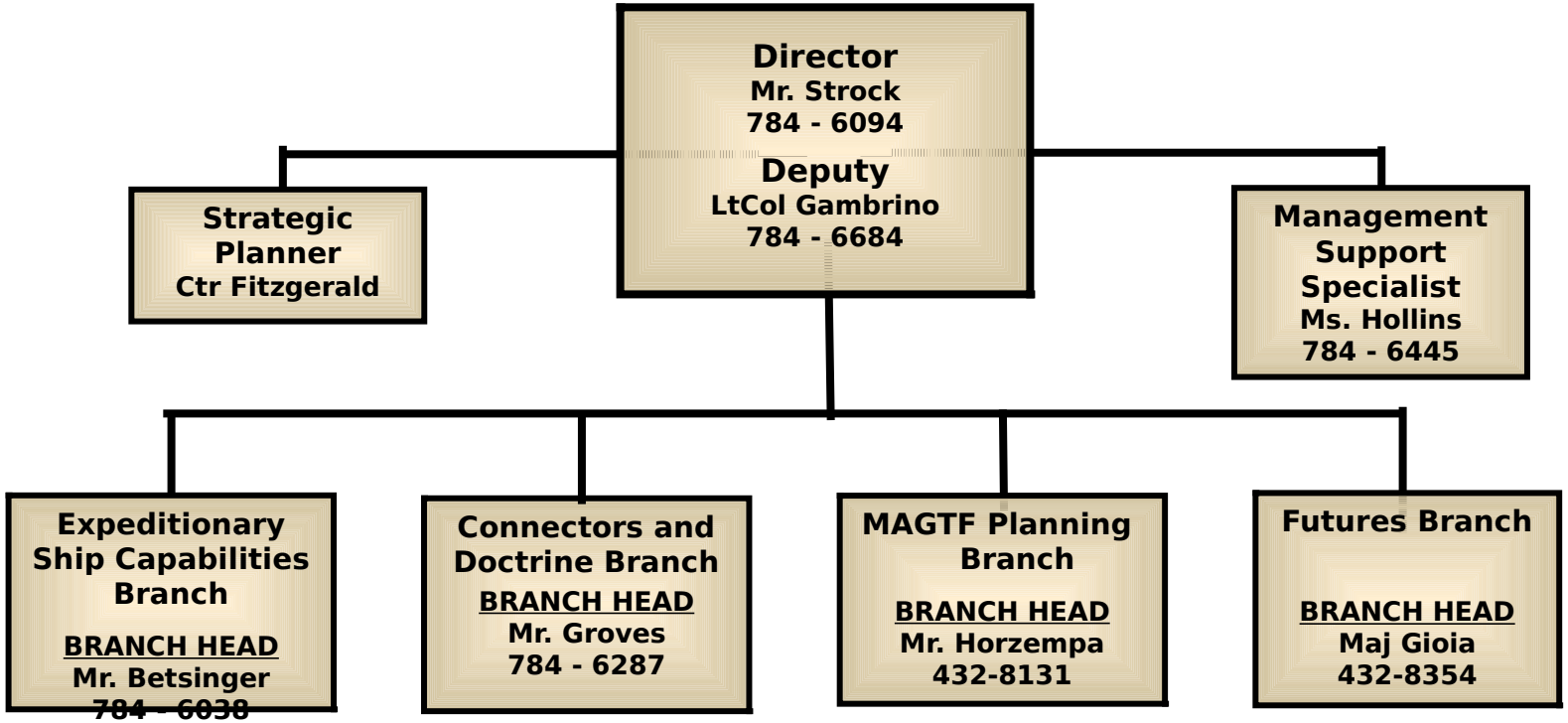


Combat Development Directorate

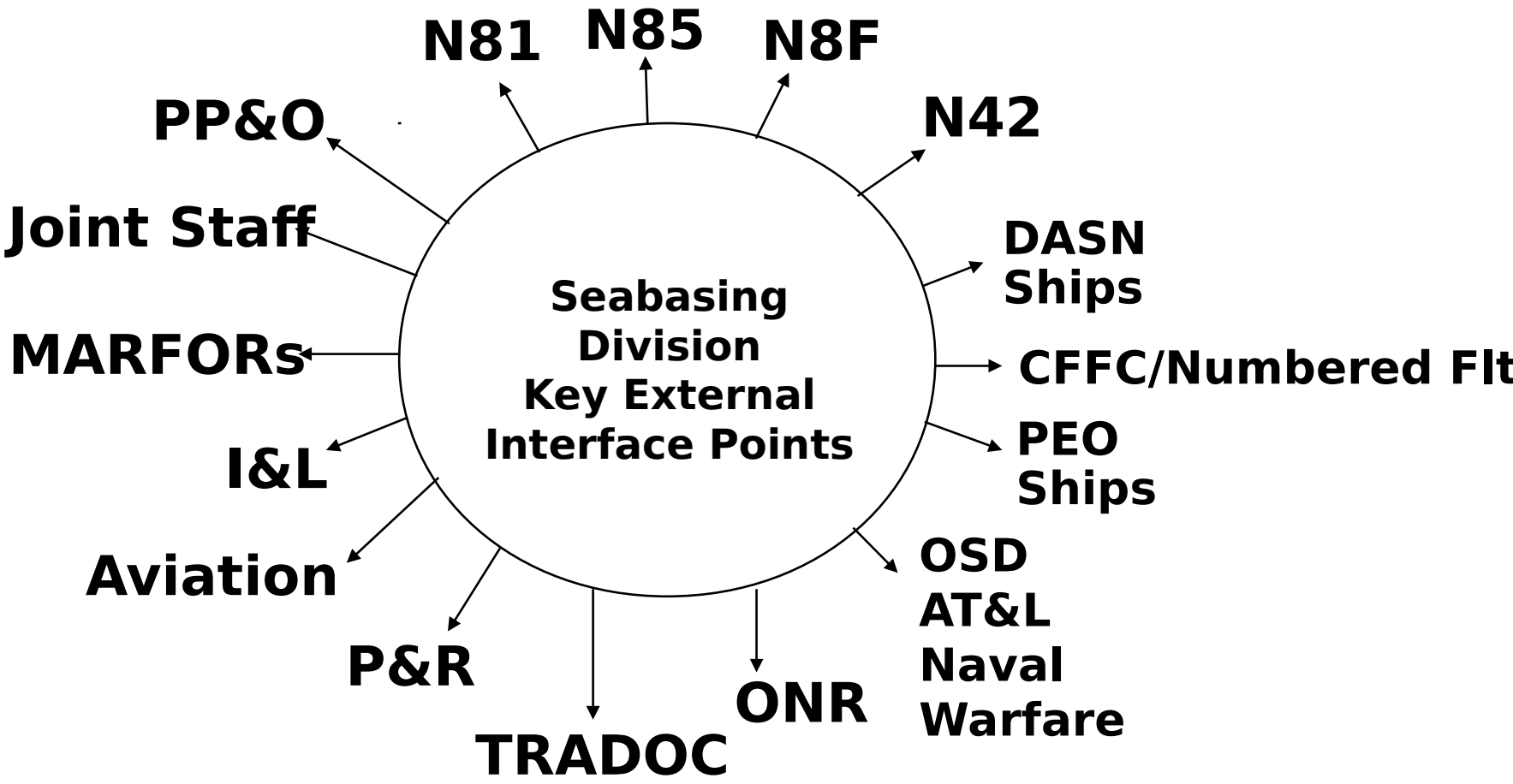


Seabasing Integration Division

Mission: Develop future Marine Corps expeditionary maritime requirements; ensure OPNAV resource sponsor/s understand and accurately convey these requirements. Represent the Deputy Commandant for Combat Development & Integration on all Seabasing platform matters. Ensure the Marine Corps is fully supported by the Navy's Long-Term Plan for Shipbuilding (30-year plan) and capable of completing Title 10-mandated amphibious warfighting functions.



Seabasing Integration Division
Key Interface Points

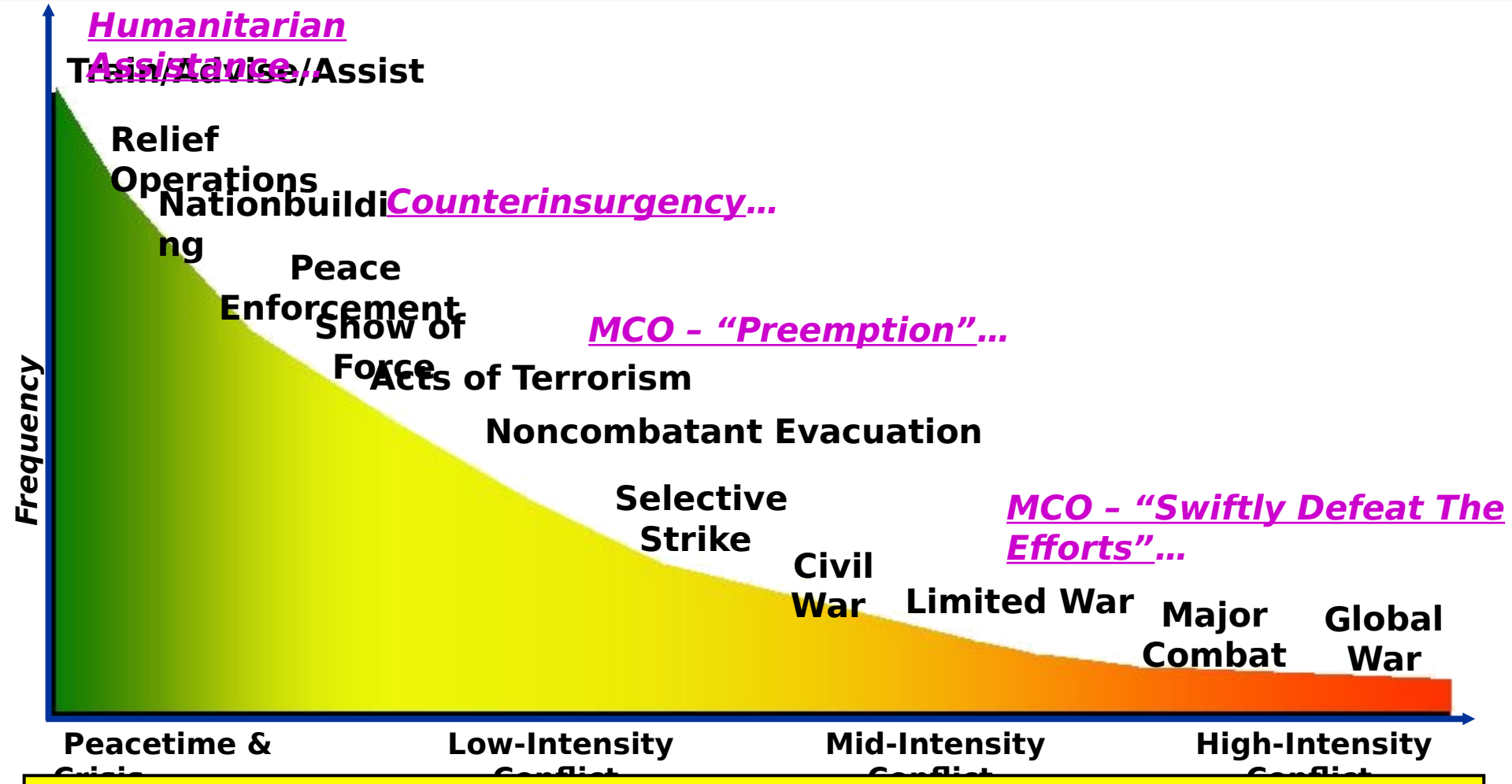


Seabasing

- **National capability for global force projection**
  - Exploits sea as maneuver space 365 days a year
- **Enables capabilities of Coalition/Joint Forces**
- **Maximizes the effects of forward presence**
- **Reduces dependence on vulnerable land bases, "steps lightly" on allies and partners**
  - Increased options for the President

"Our forces in the next century must be agile, lethal, readily deployable... We must be able to project our power over long distances, in days or weeks, rather than months"
President G.W. Bush

Joint Seabasing: Scalable and Responsive Power Projection



Seabasing will provide…the capability to dissuade a potential adversary… and, if necessary, project joint combat power within reduced timelines… with operational independence of HNS…. *SECNAV, March 05*

Today's Capability

Improved Navy Lighterage System

Surge Amphibs at Sea

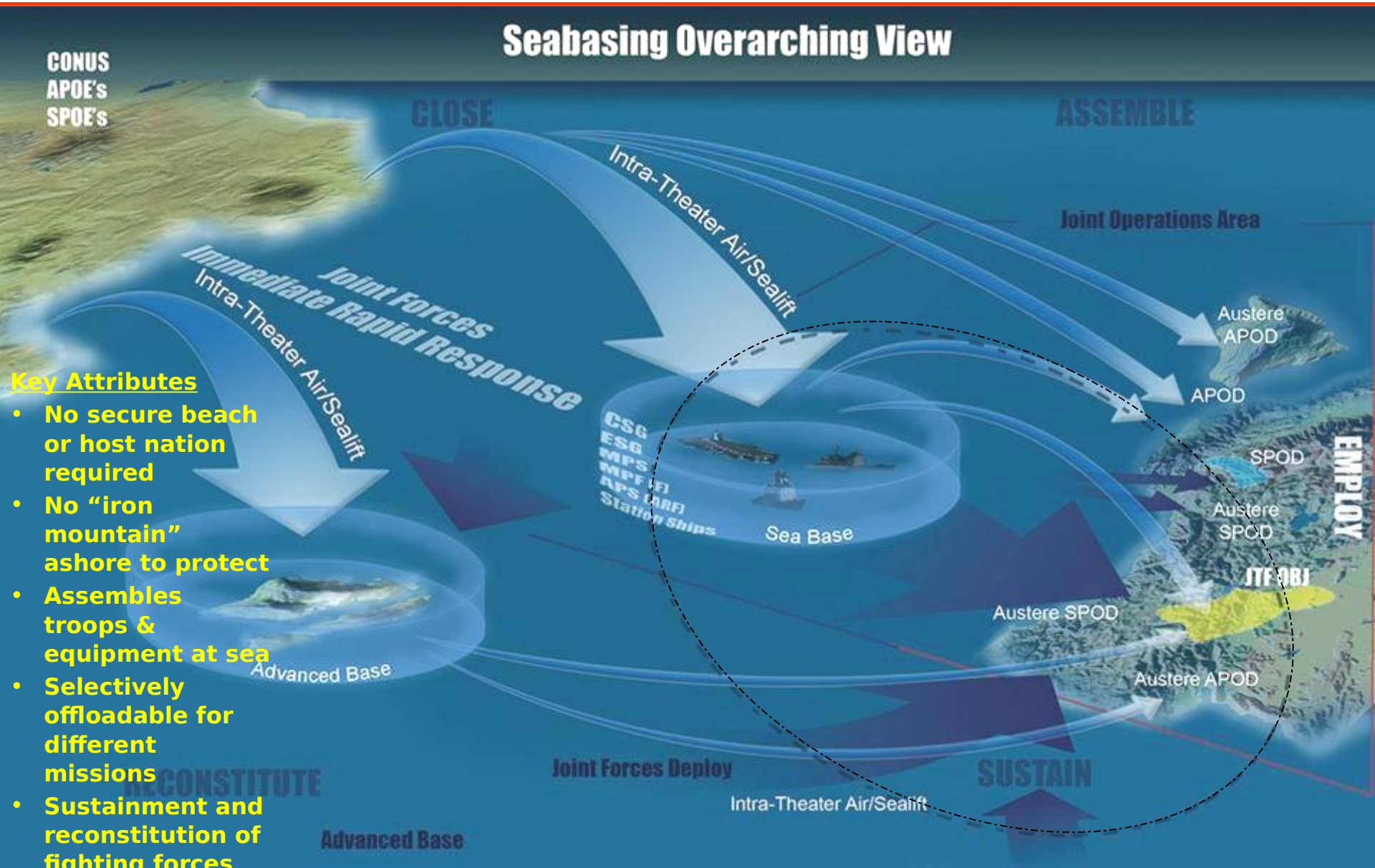
Legacy MPF

Roll on/Roll off Discharge Facility (RRDF)

High Speed Vessel

LCAC

Tomorrows Capabilities
Sea basing



Key Attributes

- **No secure beach or host nation required**
- **No "iron mountain" ashore to protect**
- **Assembles troops & equipment at sea**
- **Selectively offloadable for different missions**
- **Sustainment and reconstitution of fighting forces**

What's in the Seabase?

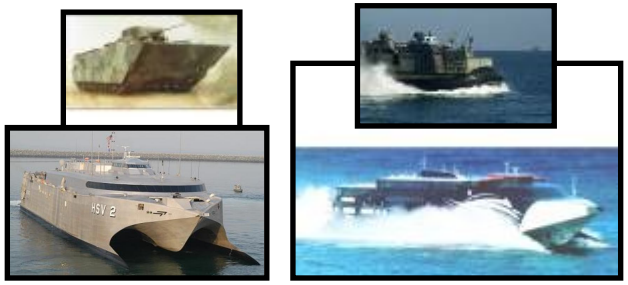
Carrier Strike Group

Expeditionary Strike Group

Maritime Prepositioning Group

Task organized forces to meet COCOM mission requirements

Connectors



Combat Logistics Force Ships

Coalition Force and Sister Service Ships

Seabasing is more than just MPF(F)…

Deploy as a MEB to fight as a MEF

How we fight

- **MCO requires MEF (3.0 MEB's) level forcible entry**
  Echelonment of the force is a mitigation strategy for reducing the risk
  associated w/AE lift shortfall
- **Echelonment**
  AE: 2.0 MEB (Amphibious Ships)
  (Rein): 1.0 MEB (MPF(F))
  (Reinforcing)
  MCRP; (Rein), includes the forward phasing of additional forces…forming a larger MAGTF from smaller initial forces whereby a single MAGTF is expanded…through the addition of personnel, equipment, and organizations
  by sea/or airlift…can be used to combine multiple MAGTF's.

  AFOE: Remaining assets of the MEF w/sustainment (Surge Shipping with RBE of two MEBs)

MPF(F) is NOT AFOE but necessary to complete the MEF and provide rapid MEB level reinforcement!

MPF(F) Contribution

- **Rapid Force closure**
- **At-sea arrival and assembly of forces**
- **Employment of Surface and Vertical BLT's**
- **Selective offload of equipment sets to meet mission**
- **Persistent sustainment**
- **At Sea Reconstitution**
- **Supports forward engagement and forcible entry**
- ***MPF(F) by design is not assault echelon shipping , will not count as AE Shipping; therefore, MPF(F) forces are not forcible entry capable***

Definitions

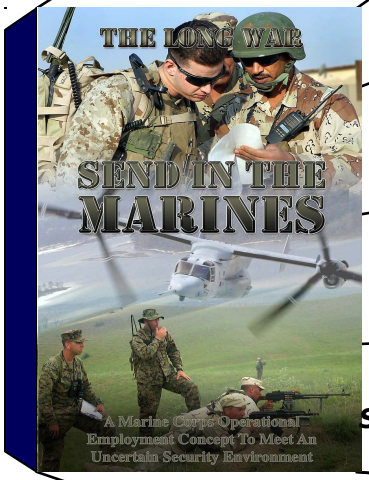
- **Assault Echelon (AE)** – "…the element of a force comprised of tailored units and aircraft assigned to conduct the initial assault…"

- **Assault Follow On Echelon (AFOE)** – "Equipment and Supplies required to support and sustain the assault…. normally required in the objective area no later than five days after commencement of the assault landing."

- **Lodgment Stabilization** – "Support the increasing flow of forces and logistical resource requirements… joint force must rapidly build up combat power in the lodgment…take immediate steps to optimize

Concept of Employment

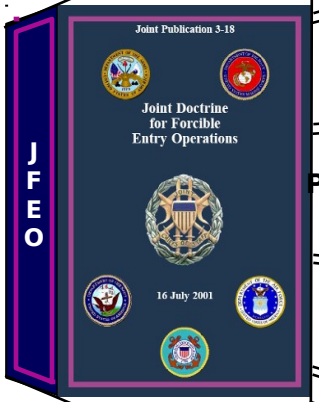
Maritime Expeditionary Capabilities Supporting the Long War


THE LONG WAR
SEND IN THE MARINES
A Marine Corps Operational Employment Concept To Meet An Uncertain Security Environment

Phase 0: Shape the Environment.	This phase involves those joint, interagency and multinational activities conducted on an ongoing, routine basis to assure or solidify friendly relationships and alliances and/or deter potential adversaries.	MPF(F) Amphib
Phase 1: Deter the Enemy	This phase focuses on deterring specific opponents by demonstrating the capability and resolve to apply force in pursuit of U.S. interests. These actions will likely build upon Phase 0 activities and may include a show of force or initiatives that would facilitate deployment, employment, and sustainment of additional forces within the region.	MPF(F) Amphib MPF
Phase 2: Seize the Initiative.	Hostilities commence during this phase. Combat power is applied to delay, impede, halt, or dislodge the adversary as well as to gain access to theater infrastructure and enhance friendly freedom of action. Concurrently, assistance is provided to relieve conditions that precipitated the crisis in order to promote stability.	Amphib (Primary) MPF(F) (Reinforce)
Phase 3: Dominate the Enemy.	The focus during this phase is on the exploitation, pursuit, and destruction of the enemy in order to break the opponent's will for organized resistance. Stability operations will also be conducted as needed to facilitate transition to the next phase.	AFOE APS
Phase 4: Stabilize The Environment	The priority during this phase will be on stability operations, the reconstitution of infrastructure, and the restoration of services. This phase concludes with the transfer of regional authority to a legitimate civil entity.	MPF/APS MPF(F)
Phase 5: Enable Civil Authority.	Legitimate civil authorities are enabled in their efforts to provide essential services to the populace. These activities include required coordination activities by U.S. military forces with multinational, interagency, and non-governmental organizations while promoting a favorable attitude among the populace toward U.S. and host nation objectives.	MPF/APS MPF(F)

*Agility *Deployability *Self-sufficiency *Adaptability *Interoperability

Maritime Expeditionary Capabilities Supporting JFEO



Source: JP 3-18

Phase I – Preparation and Deployment	FE Ops conducted by organizations whose force structures permit rapid deployment into the Objective area…joint force set the conditions that are required for a successful assault	MPF(F) Amphib
Phase II – Assault	Joint force assaults to seize initial objectives in the lodgment…must maintain the initiative and rapidly prepare to receive follow-on forces to develop the combat power necessary to secure the lodgment	Amphib (Primary) MPF(F) (Reinforce)
Phase III – Stabilization of the Lodgment	Support the increasing flow of forces and logistical resource requirements…joint force must rapidly build up combat pow in the lodgment…take immediate steps to optimize lodgmen throughput capabilities…introduce reinforcing forces	AFOE MPF
Phase IV – Intro of Follow-On Forces	Follow-on forces and equipment may flow via air LOCs and SLOCs into APODs and SPODs…Follow-on forces will require a period of time to link up with equipment, organize, and prepare for operations…	APS MPF(F)
Phase V – Termination/ Transition Operations	FEOs conclude generally in one of two ways: with the termination of combat operations and subsequent reconstitution and/or re-deployment of the joint force, or upon transition to other operation	Amphib MPF(F) MPF/APS

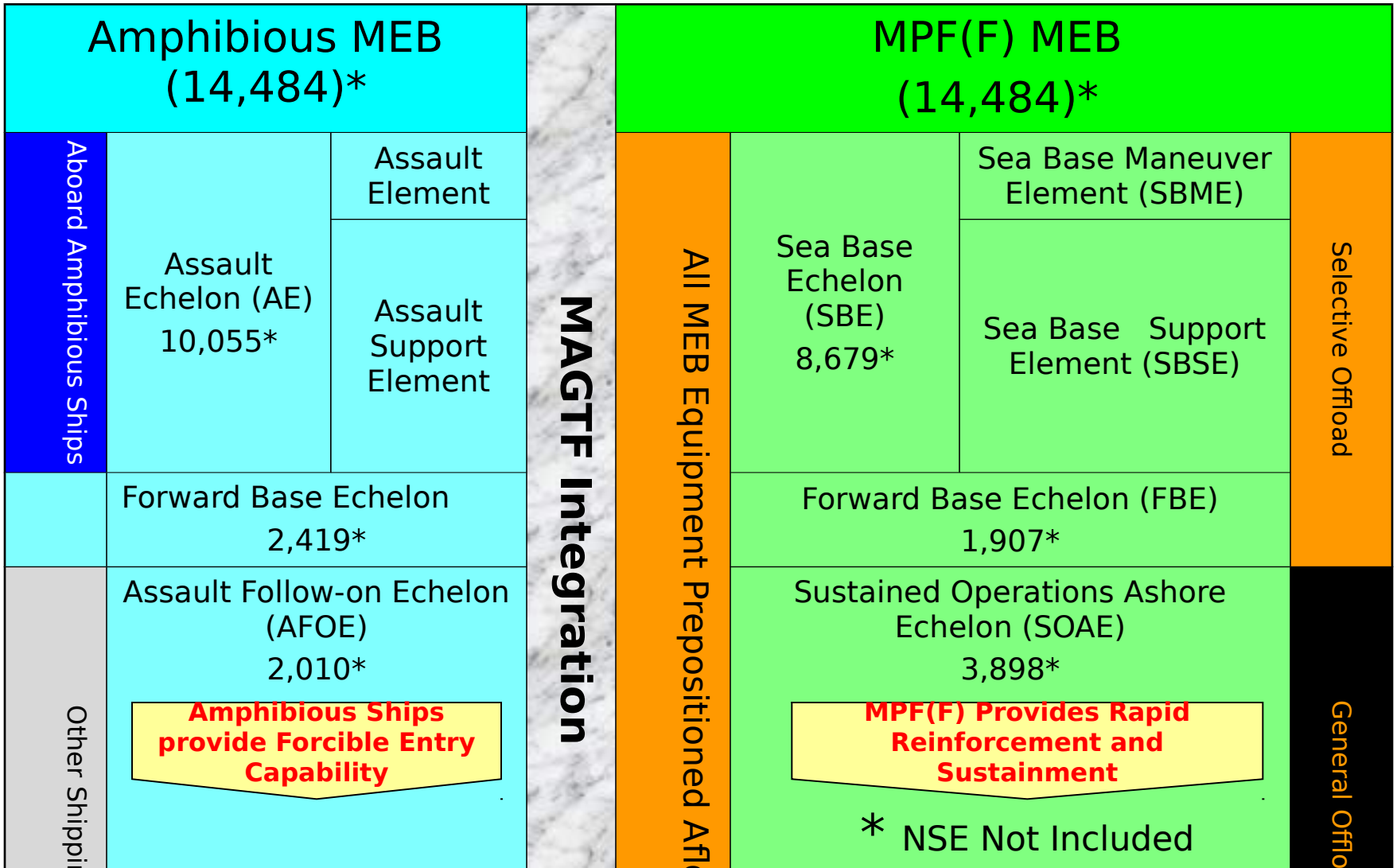
MPF(F) Contributes/Enhances Rapid Build-up Ashore

Key Capability Attributes

- **Amphibious Warfare Ships**
  - Assault Echelon shipping; capability to cohesively employ surface and vertical AE elements/units in anti-access environment
  - Built to MILSTDs, Inherent survivability, self-defense, and Navy crewing to support maritime forcible entry operations
  - Interoperable within a Seabase
  - Forward presence, deterrence
- **Maritime Prepositioning Force (Future) (MPF(F))**
  - *MPF(F) is not assault echelon shipping; therefore, MPF(F) forces are not forcible entry capable*
  - Built to commercial standards, one compartment flooding, system redundancy limited, No self-defense, requires Sea Shield in a non permissive environment, MSC Crew
  - Capable of at-sea arrival and assembly of forces; selective offload of equipment sets to meet unique mission requirements for Seabased Ops, including reinforcing a MEF
  - Contribute to Forward presence, deterrence and potential capability to support forward engagement requirements by split ops
- **Joint High Speed Vessel (JHSV)**
  - Aluminum hull, commercial car ferry (non-developmental) technology
  - Not suitable for operations in anti-access environment
  - Minimum aviation/C2 capability

Amphib and MPF(F)

Organization for Deployment and Employment



Lift Requirement

MAGTF Combat Systems

DRAFT 10 March 2005

Eagle Eye UAV

VUAV Block 1 (Eagle Eye): provides electronic observation, IR and Airground radar.

UH-1Y

Supports 8 combat loaded troops with a crew of 4. Maximum payload: 3220 lbs. Long range cruise: 135 kts. Maximum Continuous Power speed: 158 kts. Mission radius:130nm with a 2182lb payload. Maximum endurance: 3.3 hrs.

AH-1Z(W)

AH-1Z: Six weapons stations, long range cruise is 134 kts., dive speed: 222 kts., mission radius: 125 nm with a 2900lb payload. Maximum Continuous Power speed: 155 kts. Maximum endurance: 3.3 hrs.

MV-22

MV-22 (Osprey): Self deploy up to 2100 nm with one refueling. Speed :240 kts. Capable of external loads of 10,000 lbs (HMMWV).

HLR

HLR (CH-53X): Capable of 27,000 lbs. To 110nm, while MV-22 loads for sustainment.

Joint Strike Fighter

Joint Strike Fighter: STOVL, operates from L Class/CV and austere sites. Combat radius is 450 nm, air to air and air to ground capable.

CLAWS

Rapidly deployable, all-weather, standoff air defense. Countersuicide missiles, fixed and rotary wing aircraft.

JPADS

Highly Accurate, autonomously guided, able to deliver fully rigged bundle weights from 250lbs up to 12000lbs. Being developed to reach a fully rigged bundle weight of 10,000lbs. Gives flexibility to deliver multiple bundles to multiple destinations from one aircraft or multiple aircraft.

Dragon Runner

Small, four-wheeled, man-portable mobile ground sensor designed to increase situational awareness by providing observation of tactical objectives and potential danger areas beyond line of sight where human access is impractical or unsustainable.

Gladiator

Unmanned multipurpose weapon and scouting platform capable of employing the APOBS, M249 SAW and M240G Machine Gun. Future uses payloads may include: non-lethal weapons, communications relay, re-supply, casualty evacuation, or counter sniper employment.

ITV

ITV internally transportable by MV-22, and CH-53E. The vehicle must be designed so that the weapon systems can be employed 60 seconds upon exiting the aircraft and support a 2000 lbs payload.

IFAV

The Interim Fast Attack Vehicle is a high mobility weapons platform based on the Mercedes Benz G-Wagon that provides MEU and selected reconnaissance units with improved ground mobility.

LWPM

The Lightweight Prime Mover is an air transportable, protected vehicle that fits inside a CH53 or under the MV22 aircraft and is capable of towing the M777 howitzer and will accommodate 7-10 battle equipped Marines

HMMWV(R)

Capability shortfalls in the present HMMWV-A2 fleet are being studied. Areas of concern are: armament, power train, suspension, survivability.

MTVR

Medium Tactical Vehicle Replacement is designed to meet a 70% off-road and 30% on-road load transport requirement. Can carry a 7 ton payload cross-country or a 15 ton load on primary and secondary roads.

LVS(R)

Logistics Vehicle System Replacement. Heavy lift motor transport, capable of 22.5 tons on road, 10.5 tons off road. Capable of handling ISO containers.

FRSS

Employed forward of the surgical company. Rapidly deployable, trauma surgery capable 10 patients/24 hours.

LAV-25

Provides MAGTF with the capability to conduct reconnaissance, security, economy of force, and limited offensive/defensive actions. Service Life Extension underway to improve survivability and extend life to 2015.

EFV

MAGTF's primary mobility during amphibious operations and combat operations ashore. An armored and armored amphibious vehicle capable of transporting Marines from sea base to inland objectives.

MEFFV

MEFFV: in concept, will provide the 2015 and beyond MAGTF to complement the capabilities with a family armored vehicles and armored fighting vehicles of the EFV.

M1A1

MAGTF's heavy armor capability. Firepower Enhancement increases detection range, recognition, target identification, decreases target engagement sequence time, integrates situational awareness systems.

EFSS

Towed, rifled 120mm mortar and internally Transported Vehicle. Fires variety of munitions to greater than 7000 meters. The MEU's heaviest indirect fire system.

LW155

155mm towed howitzer with GPS/INS-aided navigation and positioning will provide high volume, all-weather, indirect fires to almost 40 kilometers and precision to under three meters. It will fire all US 155mm artillery ammunition.

HIMARS

wheeled rocket/missile system capable of firing rockets and missiles in the Multiple Launch Rocket System Family of Munitions to ranges greater than 45 kilometers.

CONDOR

The Command and Control On-the-move Network Digital Over the Horizon Relay (CONDOR) Capability Set supports the Command and Control (C2) joint functional area and will enable forces to maintain data network connectivity beyond line of sight.

IISR

The Integrated Infra Squad Radio (IISR) is a next generation, personal radio node, sustainable, wireless command and control capability that enables the infantry squad leader to communicate with his fire team leaders in complex terrain. ,

ECCS

The Expeditionary Command and Control Suite (ECCS) in HMMWV transportable and enables the MAGTF Commander of an advanced force deployed in a crisis to establish long haul, data/voice communications to maintain situational awareness pictures while moving into theater and once in the Area of Operation.

TSM

The Transition Switch Module (TSM) provides a flexible Unit Level Switch capability using commercial technology to provide Marine maneuver elements with robust voice/data switching, data transport, and bandwidth management capabilities.

TDN

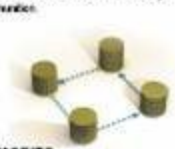
The TDN augments the existing MAGTF communications infrastructure to provide the MAGTF commander an integrated data network, forming the communications backbone for MAGTF tactical data systems and Defense Message System (DMS).

Transformational Communication System

Integrated, network-centric SATCOM system architecture under the oversight of the Transformational Communication Office (TCO). The Advanced Extremely High Frequency (AEHF) satellite system, the Advanced Polar System (APS) and Transformational Satellite (TSAT) will be cross-linked to form an integrated network-centric system-of-systems for wideband and protected users, significantly increasing SATCOM's capacity and utility.

JTRS

The Joint Tactical Radio System (JTRS) Family of Radios will be interoperable with legacy communication systems and capable of growth for new requirements and technologies, forming the tactical extension of the Transformational Communication Architecture (TCA) to access the services of the Global Information Grid (GIG).



MCEITS

MCEITS is the Marine Corps' contribution to meeting DoD Net-centricity environment and infrastructure requirements. MCEITS will position the Marine Corps to leverage the planned capabilities of Joint and DoD programs such as the Global Information Grid Bandwidth Expansion (GIG-BE) and Net-Centric Core Enterprise Services (NCES).

MCEN

The Marine Corps Enterprise Network (MCEN) is the Marine Corps Component of FORCEnet and the Global Information Grid (GIG). MCEN is our enterprise framework for IT and supports all information exchange requirements for Marine warfighters and our supporting establishment.

MAGTF C2

MAGTF C2 will deliver an "end to end," fully integrated, cross-functional MAGTF command and control capability. Spiral development of current C2 programs that include: GCE, CAC2S, C2PC, GCSS-MC. Capabilities include, the ability to identify, track, command, and control assigned air, ground, and supporting forces; receive, store, process, and retrieve critical command and control (C2) data infrastructure.

Baseline MEB Aggregate Lift Requirement

2015 MEB Lift Profile							
							Comment
Personnel	**Total**	**SBE**	**FBE**	**SOAE**			
	14,484	8,679	1,907	3,898			
RO-RO Stowage	**Square Feet**	**Short Tons**					
Vehicles	467,520	12,482					
Outsized Cargo	52,136						
Aircraft	**Quantity**	**Short Tons[1]**	**CH-46 Eq**				
MV-22	48	1,146	106.6				
CH-53K	20	496	53.6				
AH-1Z	18	136	16.7				
UH-1Y	9	64	8.3				
UAS	8	13	7.0				
F-35B JSF	30	679	62.7				Not Sea Based with MPF(F)
KC-130J	12	0	0.0				Not Sea Based with MPF(F)
EF-18G	5	0	0.0				Not Sea Based with MPF(F)
Totals	150	2,535	255				
Cargo	**Cubic Feet**	**Short Tons**	**Gallons[2]**			**JMICs[3]**	
			Water	**JP-5**	**MOGAS**		
	2,853,450	78,633	2,597,216	9,556,889	76,632	78,891	

Notes:

1. Source: Draft NAVAIR Report No: NAVAIR/6.7-2005/XX. Not counted with cargo.
2. Bulk liquid lift requirement remains at 20 DOS values. 45 DOS calculations: 17,743,629 Gal of JP-5 (Air =12,502,853; Ground 5,240,776) and 99,985 gal of MOGAS, plus 3,906,662 gal. of water.
3. JMICS derived from cubic feet (~33.7 cuft based on internal dimensions of 51.15" L x 41.15" W x 34.57" H with 20% BSF) for Classes [illegible] (Pkg), IV, VI, VII, VIII, IX, X, and Misc Class II/VII. All Class V derived from weight (1,750 lbs per JMIC).

Data Source: 2015 Baseline MEB Equipment Density List and 2015 Baseline MEB Sustainment Study.

78,891 JMICs = 4,931 TEUs

Marine Corps Expeditionary Ship Capabilities

Assault Echelon Shipping

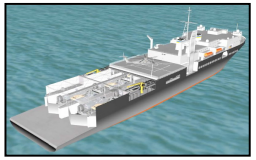
Minimum MEB AE Lift Requirement (15 Ships)

- Five LHD-1 (Wasp Class)
- Five LPD-17 (San Antonio Class)
- Five LSD-41 (Whidbey Island Class)

MPF(F) Program Platforms

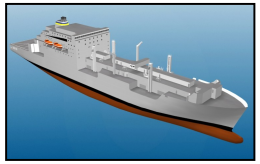
2 T-LHA(R)

3 MLP



1 T-LHD

3 T-AKE



3 T-AKR

2 Legacy T-AK

Capabilities

Amphibious Warfare Ships

- Inherent survivability, self-defense, and Navy crewing
- Maritime forcible entry operations
- Forward presence, deterrence

Maritime Prepositioning Force (Future) (MPF(F))

- Capable of at-sea arrival and assembly of forces
- Selective offload of equipment sets to meet Seabasing mission requirements
- Supports forward engagement and forcible entry Reinforcement
- ***MPF(F) by design is not assault echelon shipping; therefore, MPF(F) forces are not***

Expeditionary Capabilities

Amphibious Warfare Ships

- 2.0 MEB AE per Strategic Planning Guidance; 15 Ao Ships per MEB AE
- Total 30 operationally available ships
  - 10 LHD/LHA(R)
  - 10 LPD-17
  - 10 LSD-41/49 (or equivalent replacement)
  - Average availability is 85% (for planning purposes)
  - Minimum 11/11/11 ships to meet 30 Ao requirement

Maritime Prepositioning Force (Future)

- One squadron

Legacy Maritime Prepositioning Squadrons

- Retain two squadrons to maintain afloat prepositioning capacity

Amphibious Shipping

Platforms

LHA-1 (Tarawa Class) (Last Decom FY18)
LHD-1 (Wasp Class) (Last Decom beyond FY35) LHA-6 (Tarawa Class Rep)
LH(X) (Wasp Class Rep)
LPD-4 (Austin Class) (Last Decom FY13)
*** LPD-17 (San Antonio Class)**
LSD-41 (Whidbey Island Class) (Last Decom FY31)
LSD-49 (Harpers Ferry Class) (Last Decom FY31)
LCC-19 (Blue Ridge Class) (Last Decom FY16)

*** Functionally replaces LPD 4, LSD 41, LKA 113, and LST 1179 and LCC Ship classes**

Platforms

New Build Assault Echelon Shipping

- LPD-17
- LHA(R)
- LH(X)
- LSD(X)
- LCC(R)

Amphibious Lift Enhancement Prog (ALEP)

Assault Follow On Echelon (Shipping)

- T-AVB, etc.

Capabilities

Amphibious Warfare Ships

- Inherent survivability, self-defense, and Navy crewing
- Assault echelon shipping; capability to cohesively employ surface and vertical AE elements/units in anti-access environment
- Maritime forcible entry operations
- Forward presence, deterrence

Expeditionary Requirements

- 2.0 MEB AE per Strategic Planning Guidance; 15 Ao Ships per MEB AE (minimum).

Issues

- Total 30 operationally available ships (POR is 9/9/12)
  - 10 LHD/LHA(R)
  - 10 LPD-17
  - 10 LSD-41/49 (or equivalent replacement)
  - Average availability is 85% (for planning purposes)
  - Minimum 11/11/11 ships to meet 30 Ao requirement

- Weight and Stability of ships as Forces grow (see

Amphibious Assault Ship Replacement LHA-6/9

Preliminary Design Platform

LHA-6

Description

Displacement, Full (LHD)	**44,971 lt**
Speed	**22.2 kts**
Length	**844 ft**
Beam	**106 ft**
Draft	**28.82 ft (Full Load)**
Crew	**102 Officers; 78 SNCO; 1024 Enlisted**
Marine Detachment	**1,687 troops; 184 surge**
Med Capability	**2 Med OR; 24 Ward**
Surface Interface Well	**0**
Flight Deck	**9 CH-53K Spots**
Elevators	**1 Port (37 ½ t); 1 Starboard (37 ½ t)**
Hangar Bay / High Bay (49 ft)	**30,542 ft2 / Two 7 Frame High Bay**
Vehicle Square	**19,112 ft2**
Cargo/Ammo Cube	**145,963 ft3**
Cargo Fuel (JP-5)	**1,300,000 gal**

Program Status

- **LHA 6 Class (LHA(R) Flight 0), a transformational ship to replace the LHA 1 class of amphibious assault ships.**
  - Will have the flexibility to operate in the traditional role as the flagship for an ESG as well as to support the Assault Echelon of a MEF; provides the flexibility to operate and be a vital part of the Sea Base.
- **Program to enhance amphibious aviation capability-meet increased demand created by JSF-MV22.**
  - Compliments the MEU, 1:1 Future composite ACE (6 F-35B, 12 MV-22B, 4 CH-53K, 4 AH-1Z, 3 UH-1Y, and 2 MH-60 SAR)
  - Or a JSF platform to host 22 F-35B aircraft.
- **LHA-6 planned w/o well-deck, contract awarded June 07; Milestone B ADM Feb 06; start FAB Nov**

Issues

- **LHA-9 design decision (RIC & Well Deck) pending based upon design for LHA-7 FY10 ship intended for the MPF(F) big deck.**
- **Expeditionary Role as Amphibious Warfare Ship to support the Strategic Planning Guidance and provide the Operational Availability (Ao) to support 2.0 MEB Assault Echelon; Naval Shipbuilding Plan projects 9 Big Decks (7 LHDs & 2 LHA(R)s in FY22. This is in contradiction to USMC requirement for 11 AE Big Decks.**
- **ESC will support CONOPS refinement during Spring 08.**

Amphibious Transport Dock
LPD-17 San Antonio Class

Platform

Description

Displacement (Full)	24,900 lt
Speed	24.5 kts
Length	684 ft
Beam	105 ft
Draft	23.0 ft (Full Load)
Crew	360 Sailors /3 Marines
Troop Lift 95 Surge	66 Officers; 41 (>E7); 597 (<E6);
Med Capability	2 Med OR; 4 Isolation Ward; 24 Bed Wards & Casualty Overflow
Surface Interface Well	1 (2 LCAC or 1 LCU); 14 EFV
Flight Deck	2 Ops Spots/4 Exp Spots
Hangar Bay	1 MV-22 or CH-53K
Vehicle Square	25,000 ft2
Cargo Cube	35,000 ft3
Cargo Fuel (JP5)	215,000 gal

Program Status

SHIP	Commission	Home	Remarks
LPD 17 San Antonio	14 Jan 06	Norfolk	
LPD 18 New Orleans	5 Mar 07	San Diego	
LPD 19 Mesa Verde	15 Dec 07	Norfolk	Accept Trials Success Sep 07
LPD 20 Green Bay	Proj Oct 08	San Diego	New Construction
LPD 21 New York	Proj Oct 09	Norfolk	New Construction
LPD 22 San Diego	Proj Oct 10	San Diego	New Construction
LPD 23 Anchorage	Proj Jan 11	San Diego	Authorized
LPD 24 Arlington	Proj Jul 11	Norfolk	Authorized

Functionally replace LPD 4, LSD 41, LKA 113, LST 1179 and LCC Ship

Issues

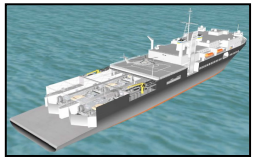
- Program of Record is for 12 ships but only 9 are currently funded.
- 9th ship (LPD-25) to be delivered in FY-12
- Based on current and projected lift requirements, USMC may seek to purchase additional ships (10-11)
- Marine Corps requires a 10th and 11th LPD 17 to meet 2.0 MEB of Lift, #2 on USN FY09 unfunded list
- LPD-17 hull form may be used for LCC(R) and LSD(X) platforms based on Navy Single Hull initiative.

Maritime Prepositioning Force (Future)

Platform

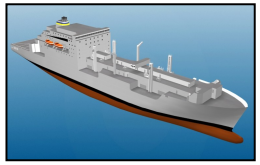
2 T-LHA(R)

3 MLP



1 T-LHD

3 T-AKE



3 T-AKR

2 Legacy T-AK

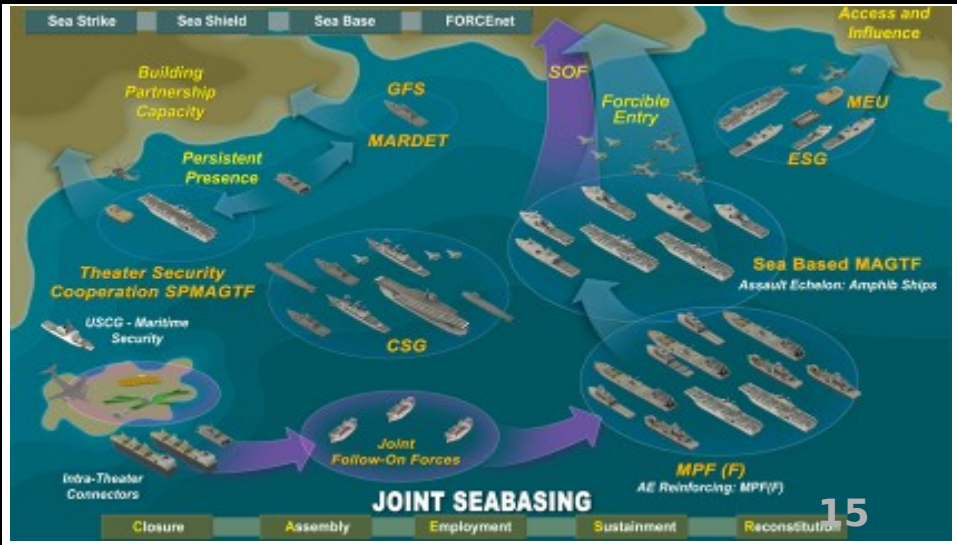
Description

- **Capable of at-sea arrival and assembly of forces**
- **Selective offload of equipment sets to meet Seabasing mission requirements**
- **Supports forward engagement and forcible entry**
- **MPF(F) Shipping will not count as AE Shipping**
- ***MPF(F) by design is not assault echelon shipping. Therefore, MPF(F) forces are***

Program Status/Issues

- **CDD Incremental Development**
  - **1 MLPs and T-AKEs**
    - JCB/JROC/CNO APPROVED
  - **2 Big Decks**
    - Begins staffing Jan 08
    - R3B April/May 08
    - JROC Jul/Aug 08
  - **3 LMSRs – Begins staffing Aug/Sep 2008**
    - R3B Planned Oct 2008
- **Program of Record is for 14 ships last ship FY20**
- **IOC (FY17), FOC (FY22)**
- **LHD/T-AKs (MSC/MPF) (3) platforms from existing ships**

Concept of Employment



Revolution/Evolution

Past

- Operational Capabilit
- Forward Presence
- 13 Ships in 3 Squadr
- Each Squadron suppo

MEB of 14,400+ Marines

- Proven Force Enabler

Present

- MPF Enhancement
  - 3 additional Ships (1 per sqdn)
  - Additional Capabilities:
    - Naval Mobile Constr. Bn
    - Naval Fleet Hospital
    - Expeditionary Airfield

Future

MPF Future (2015 and Beyond)

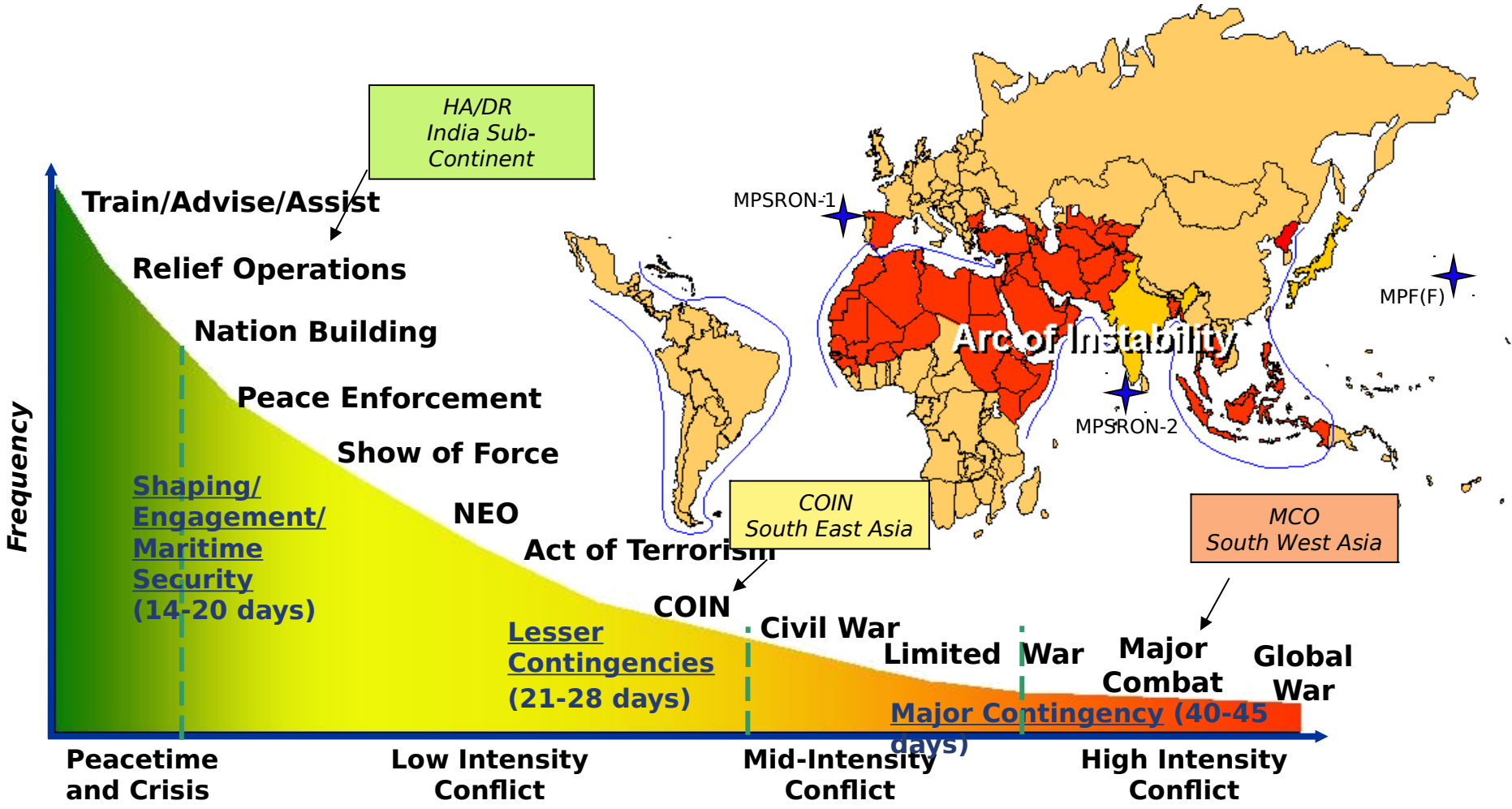
- Seabasing

Prepositioning Today and Tomorrow

- **MPF**
  - Port-to-port (or in-stream) capability
  - Require Host Nation Support (HNS) to close and assemble the force
  - Significant lodgment - both APOD and SPOD required in theater
  - High force protection bill associated with establishing and maintaining a secure lodgment
  - Ships densely packed, assemble ashore

- **MPF(F)**
  - Operate in restrictive access environments
  - Arrival, assemble and integrate at sea
  - Selectively offloadable, tailorable force packages
  - Employ combat ready forces from OTH
  - Indefinite sustainment from the sea base up to a brigade size force operating ashore
  - Reconstitute forces to the sea base for redeployment

MPF(F)'s Geo-Political Applications



MPF(F) - Responsive and Scalable across the full "Range of Military Operations"

MPF(F) Squadron Required Capabilities

- ✓ Preposition the MEB (1 Air and 2 Surface Battalions [selective offload])
- ✓ Close a MEB in 10-14 days
- ✓ At Sea Arrival and Assembly in 24-72 Hours
- ✓ Employ one Surface Battalion and one Vertical Battalion in 8-10 hours
- ✓ Provide accommodations and aircraft/vehicle maintenance capability (O level/selected I level) for a MEB
- ✓ Sustain the forces ashore from the Sea Base
- ✓ Provide Level II (resuscitative surgery) medical support
- ✓ Accommodate and operate organic surface connectors
- ✓ Conduct external operations in Sea State 3 threshold/Sea State 4 objective
- ✓ Provide MEB C2

2015 MEB assumptions

11,912	Personnel *
799	HMMWVs
106	EFVs
335	MTVRs
30	M1A1 Tanks
18	LW 155 Howitzers
1,226	Trailers and others

2015 R/W/T/R MEB ACE

48	MV-22
20	CH-53(K)
18	AH-1
9	UH-1
2	H-60 / Aviation Ship
8	UAVs

Required Squadron Capacity

947,224	RO/RO ft^2
3,001,747	Cargo ft^3
8,808,424	POL ~ gallons
197	CH 46 Equiv
20	Acft operating spots

*** Includes MEB, NSE, MSC Crew, and Standing**

UNCLASSIFIED

MPF(F) Squadron Composition

2 T-LHA

NEW BUILD

Length: 844 ft **Beam: 106 ft** **Draft: 28.2 ft** **Displacement: 45K LT**
Per Sqd: 2 **Speed: ~20 knots** **Range~9,500 nm**
Crew: 285 **Stand Det: 23** **MAGTF: 1,490** **NSE: ~590** **Berths: 3, 052**
A/C Stow: 55 **A/C Op Spots: 9** **JP-5: 1.6 Mil gal** **Water: 400k Gal/200K gal Per day**
Sqft: 11,600 **CuFt: 160, 000** **Well Deck: N/A**
TEU: N/A **Med: 2 OR & 24 Beds-4 0R&16/45** **Stern Ramp:**

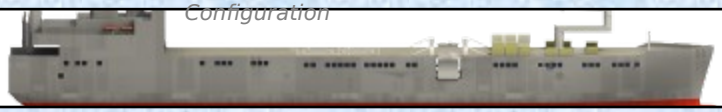
1 T-LHD

LEGACY

Length: 844 ft **Beam: 106 ft** **Draft: 27 ft** **Displacement: 42K LT**
Per Sqd: 1 **Speed: ~20 knots** **Range ~9,500 nm**
Crew: 285 **Stand Det: 23** **MAGTF: 1,656** **NSE: ~670** **Berths: 2,946**
A/C Stow: 42 **A/C Op Spots: 9** **JP-5: 607 K gal** **Water:400K Gal/200K Gal Per Day**
Sqft: 24, 012 **CuFt: 145, 000** **Well Deck: 3 LCAC**
TEU: N/A **Med: 6 OR & 60 Beds** **Stern Ramp: 72 ST**

3 T-AKR

NEW BUILD
MODIFIED DESIGN



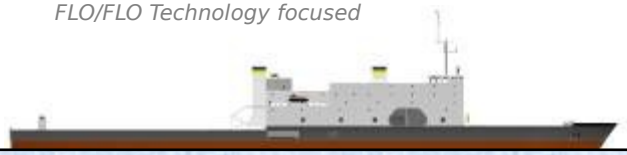
Artist Rendition/Notional Configuration

Length: 950 ft **Beam: 106 ft** **Draft: 34 ft** **Displacement: ~55K LT**
Per Sqd: 3 **Speed: ~20 knots** **Range ~9,500 nm**
Crew: 30 **Stand Det: 48** **MAGTF: 705** **NSE: ~62** **Berths: ~845**
A/C Stow: 0 **A/C Op Spots: 2/4** **JP-5: 380.4K gal** **Water: 33.5K gal/24K gal Per day**
Sqft: 260, 799 **CuFt: 51,682** **Well Deck: N/A**

Artist Rendition/Notional Configuration
FLO/FLO Technology focused

3 MLP

NEW BUILD
/DESIGN



Length: TBD **Beam: TBD** **Draft: TBD** **Displacement: TBD**
Per Sqd: 3 **Speed: ~20 knots** **Range ~9,500 nm**
Crew: 64 **Stand Det: 10** **MAGTF: 594** **NSE: ~128** **Berths: ~1,458**
A/C Stow: 0 **A/C Op Spots: 1** **JP-5:~1.2 Mil gal** **Water:~168K Gal/TBD gal Per day**
Sqft: ~11,253 **CuFt: ~935** **Mission Deck: 6 (LCAC)**
TEU: N/A **Med: Sick Call** **Stern Ramp: N/A**

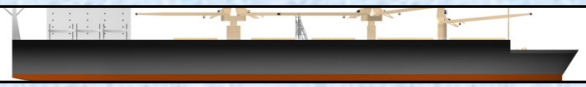
Artist Rendition/Notional Configuration

3 T-AKE

NEW BUILD
MODIFIED DESIGN

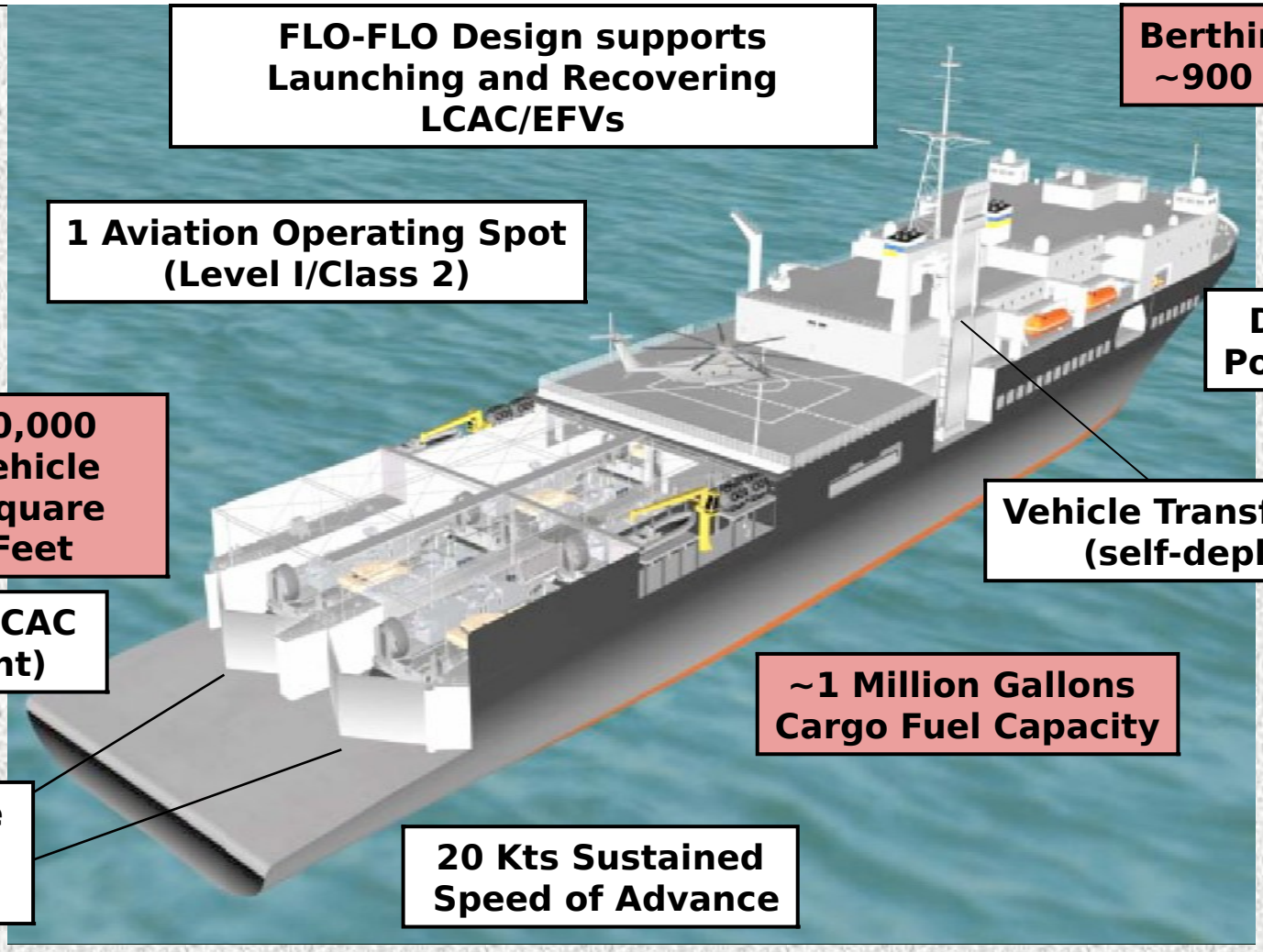
Length: 689 ft **Beam: 105 ft** **Draft: 29 ft** **Displacement: 39K LT**
Per Sqd: 3 **Speed: ~20 knots** **Range ~9,500 nm**
Crew: 123 **Stand Det: 6** **MAGTF: ~10** **NSE: ~55** **Berths: 197**
A/C Stow: 1 **A/C Op Spots: 1** **JP-5: 1.3 Mil gal** **Water: 52.8K Gal/28K gal Per day**
Sqft: N/A **CuFt: 1,108,592** **Well Deck: N/A**
TEU: 61 **Med: Sick Call** **Stern Ramp: N/A**

2 Legacy



Length: 673 ft **Beam: 106 ft** **Draft: 34.6 ft** **Displacement: ~46K LT**
Per Sqd: 2 **Speed: 17.7 knots** **Range 12,900 nm**
Crew: 30 **Stand Det: 16** **MAGTF: 71** **NSE: ~10** **Berths: 127**
A/C Stow: 0 **A/C Op Spots: 1** **JP-5: 1.4 Mil gal** **Water:99K Gal/ 25K Gal Per day**
Sqft: 152,185 **CuFt: N/A** **Well Deck: N/A**

Notional MPF(F) MLP



FLO-FLO Design supports Launching and Recovering LCAC/EFVs

Berthing for ~900 PAXs

1 Aviation Operating Spot (Level I/Class 2)

Dynamic Positioning

50,000 Vehicle Square Feet

Vehicle Transfer System (self-deploying)

Carries 6 LCAC (Equivalent)

~1 Million Gallons Cargo Fuel Capacity

2 Surface Interface Points

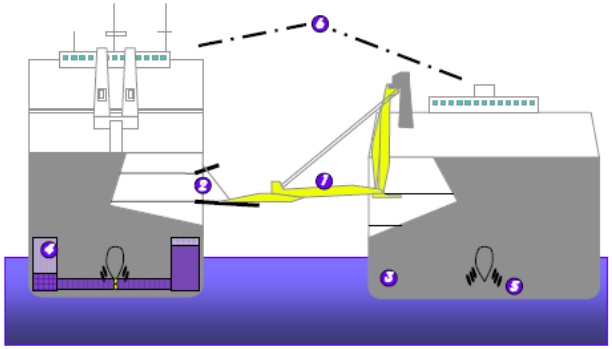
20 Kts Sustained Speed of Advance

ional Concept - Configuration & Detail Design to be Completed by Shipy

Vehicle Transfer System (VTS)

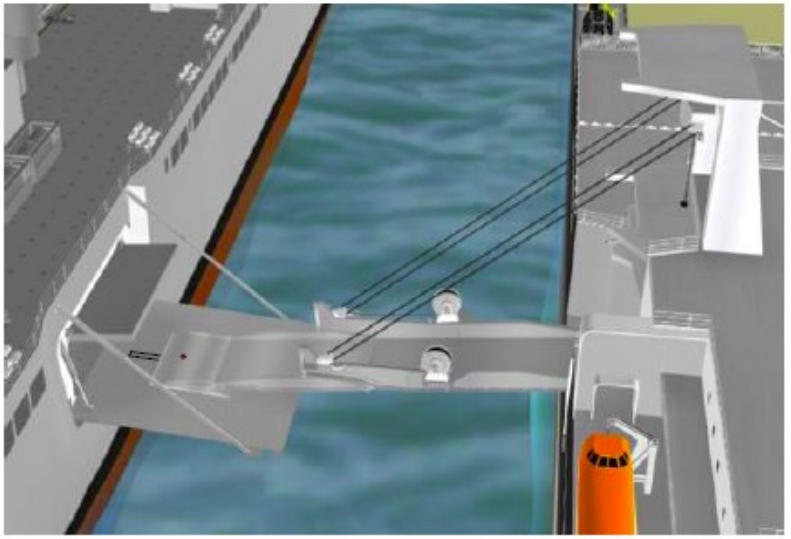
VTS is the critical new technology that enables surface movement

1. MLP Ramp & Door
2. MPFF LMSR Platform & Door
3. MLP Hullform and seakeeping performance
4. MPFF LMSR Anti-roll Solution
5. MLP Dynamic Positioning Capacity
6. Position sensors and Control Algorithm



The MLP Hullform[3], MPF(F) LMSR Anti-Roll Tank[4], MLP Dynamic Positioning System[5] and Position Sensors[6] work together to minimize relative motions in seas

In turn, the MLP Ramp[1] and the MPF(F) LMSR Platform[2] will accommodate these relative motions in seas, in order for vehicles to transfer safely



- **Primary system to transfer vehicles and personnel from the LMSRs to the MLPs underway**
- **Dynamic positioning (DP) of MLP to LMSR while underway**
- **1 VTS per MLP (no redundancy)**
- **24 hour ship transfer (notional) period through NATO SS3**

MPF(F) R&D Program
At-Sea Test

Alongside operations (also called skin-to-skin) permits the USNS Red Cloud to lower the ramp and transfer vehicles to the Dockwise Mighty Servant 3, for further loading onto LCACs. This simulates the assembly and offload of up to 1/3 of a surface Battalion Landing Team.

Joint High Speed Vessel (JHSV)

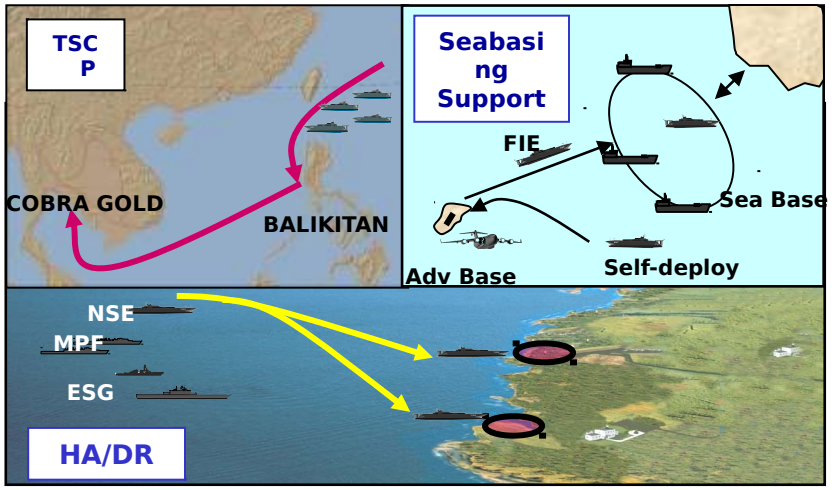
JHSV Capabilities & Characteristics

- Shallow draft (< 15’), high speed (> 35 kts loaded)
  - Ability to enter small, austere/degraded ports unassisted
- Self-deploying between theaters
- 600-700 ST payload, 1200 NM range, 35 kts, Sea State 3
  - Smaller payloads = greater range, larger payloads = less range
- Seating for 312 Marines (Co (rein)); berthing for 104 Marines
- 20-22,000 sqft mission deck/cargo bay (M1A2, MTVR compatible)
- Slewing ramp (astern to 40 degrees forward)
- Level I, Class 2 flight deck for H-60s, H-46s, UH-/AH-1 helicopters
  - Fuel only, no services
- 20 ST crane for TEU movement, small boat launch & recovery

JHSV Quantity and Basing

- 8 JHSVs funded (5 Army, 3 Navy), 2 addl USN JHSVs in PR09
- ***Quantity funded does not equal quantity required***
- Acquisition objective TBD by MS B (Aug ’08)
  - PACOM, AoA, MCCDC studies suggest 16 JHSVs needed across DOD
- **7 JHSV equivalents meet USMC requirements**
  - Based on MARFOR TSCP, GWOT, intra-theater lift requirements
  - Requirement quantified in “vessel days per year” v. specific # of JHSVs
  - Assumes 180 days operational availability (Ao) per year per JHSV
  - Does not explore overlap between USN, USMC requirements
- Notional basing scheme (JHSVs swing between theaters as needed)
  - PACOM = 3 (Hawaii, Guam, Okinawa)
  - CENTCOM = 2 (Bahrain)
  - EUCOM = 1 (Rota)
  - CONUS = 1 (Norfolk)

USMC JHSV Missions (The “Intra-Theater Connector”)



Joint Maritime Assault Connector (JMAC)

Capabilities

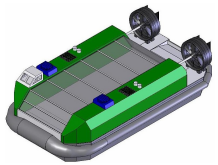
- High Speed, Over-The-Beach, Ship-To-Shore Amphibious Capability to Lift All Equipment Organic to the Ground Elements of a Marine Air/Ground Task Force
- Ability to Operate independent of tides, water depth, underwater obstacles, in NATO SS 3-4 at 25 nm or less
- Designed to address 2 gaps:
  - Conduct movement
  - Prepare for movement

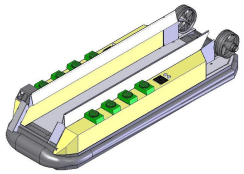
Requirements

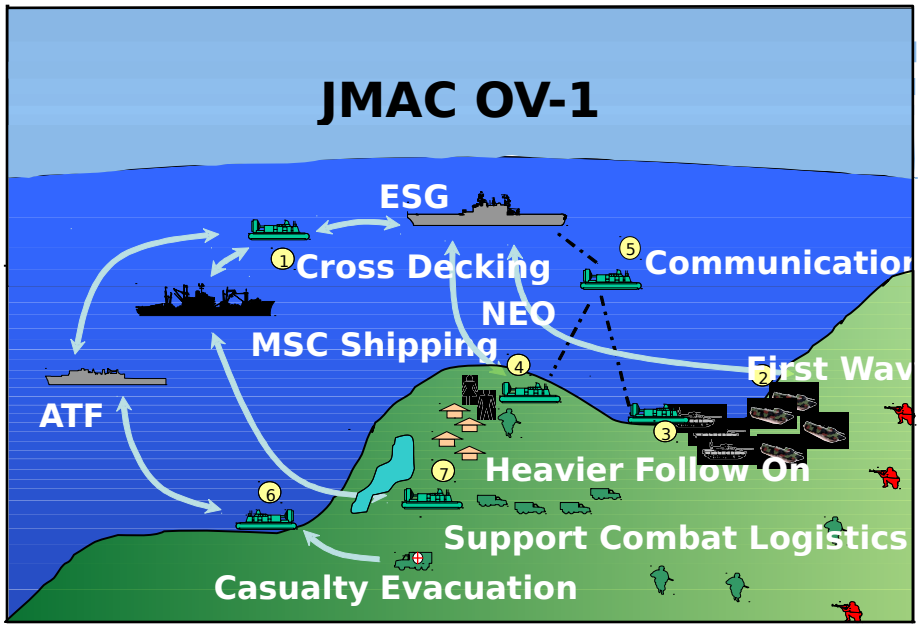
- 2015 timeframe - significant gaps in brigade-sized maneuver concurrent with retirement of the Landing Craft, Air Cushion (LCAC) and Landing Craft, Utility (LCU) as they reach the end of operational service life
- 72 LCAC required to meet 3.0 MEB and required operational capability/ projected operational environment
- 72 LCAC required to meet COCOM OPLAN requirement of 60 operational craft
- LCAC fleet falls below required 72 LCAC in 2014

Materiel Alternatives

- LCAC SLEP
- Standard Conventional 73 Short Ton (SC-73)
- Large Conventional 146 Short Ton (LC-146))







Joint Seabasing Experimentation

Science & Technology and Research & Development

Skin-to-Skin Transfer

High Capacity UNREP

Selective Offload

Stabilized Cranes

Joint Modular Intermodal Container (JMIC)

Mobile Landing Platform Interface

Automated Cargo Handling

At-Sea Arrival, Assembly, Employment, Sustainment

Seabasing Integration Division Points Of Contact

ROW WELL…AND LIVE!

- **Director**
  - **Mr. Jim Strock**
    - **james.strock@usmc.mil**
    - **Comm: 703-784-6094**
- **Deputy Director:**
  - **LtCol John Gambrino**
    - **John.gambrino@usmc.mil**
    - **Comm: 703-784-6884**
- **Expeditionary Ship Capabilities Branch:**
  - **Mr. Rick Betsinger**
    - **richard.betsinger@usmc.mil**
    - **Comm: 703-784-6038**
- **MAGTF Planning Branch:**
  - **Mr. Jim Horzempa**
    - **james.horzempa@usmc.mil**
    - **Comm: 703-784-8354**
- **Connectors & Doctrine Branch:**
  - **Mr. Dave Groves**
    - **david.groves@usmc.mil**
    - **Comm: 703-784-6227**
- **Futures Branch:**
  - **Maj Matt "Waldo" Gioia**
    - **matthew.gioia@usmc.mil**
    - **Comm: 703-432-8144**

Questions?

Joint Force Enabler
In Area-Denial and Anti-Access Environments

Rick Betsinger
Branch Head, Expeditionary Ship Capabilities Sea basing Integration Division
Capabilities Development Directorate
Marine Corps Combat Development Command
Quantico, Virginia 22134
703-784-6038